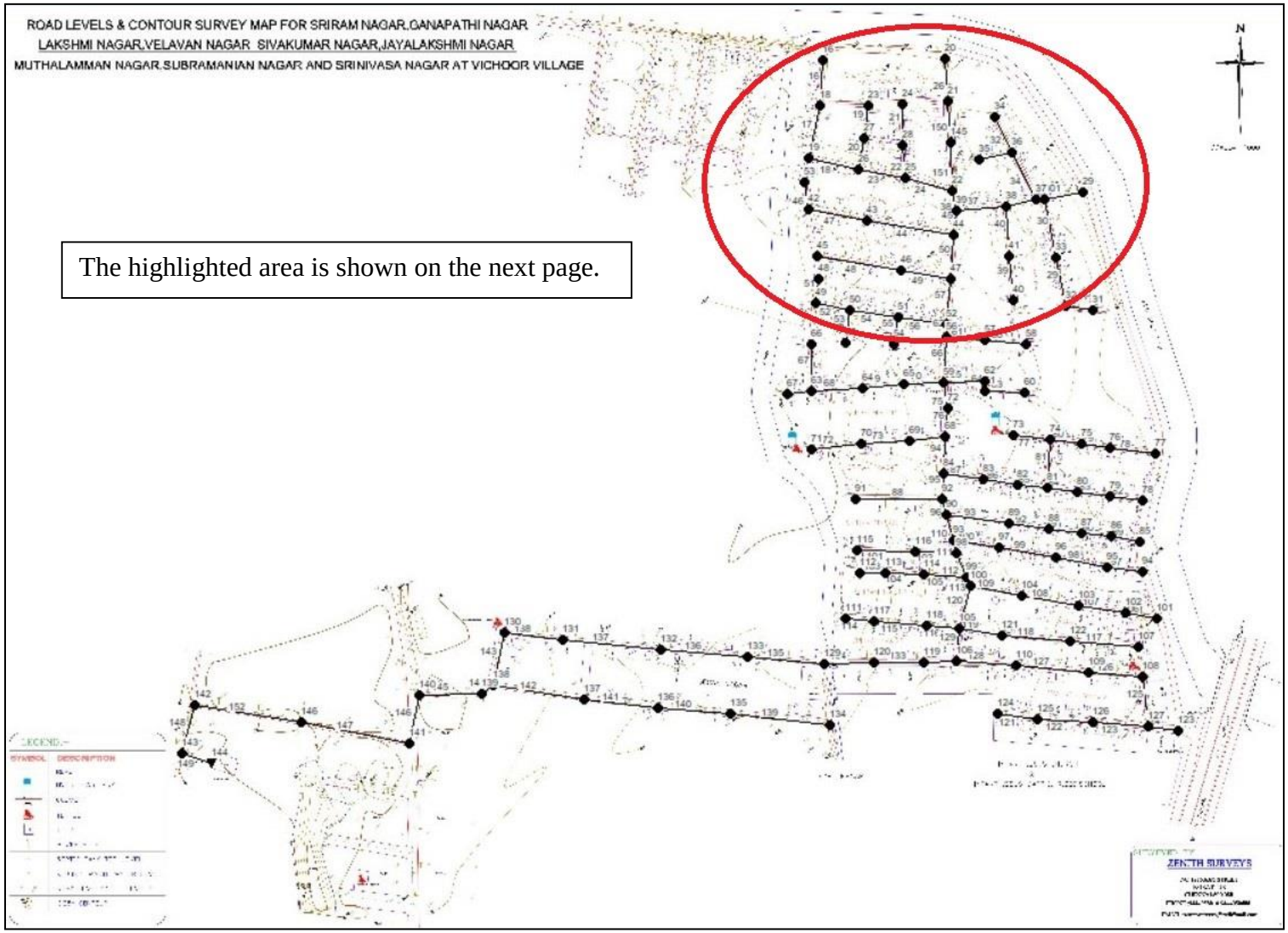
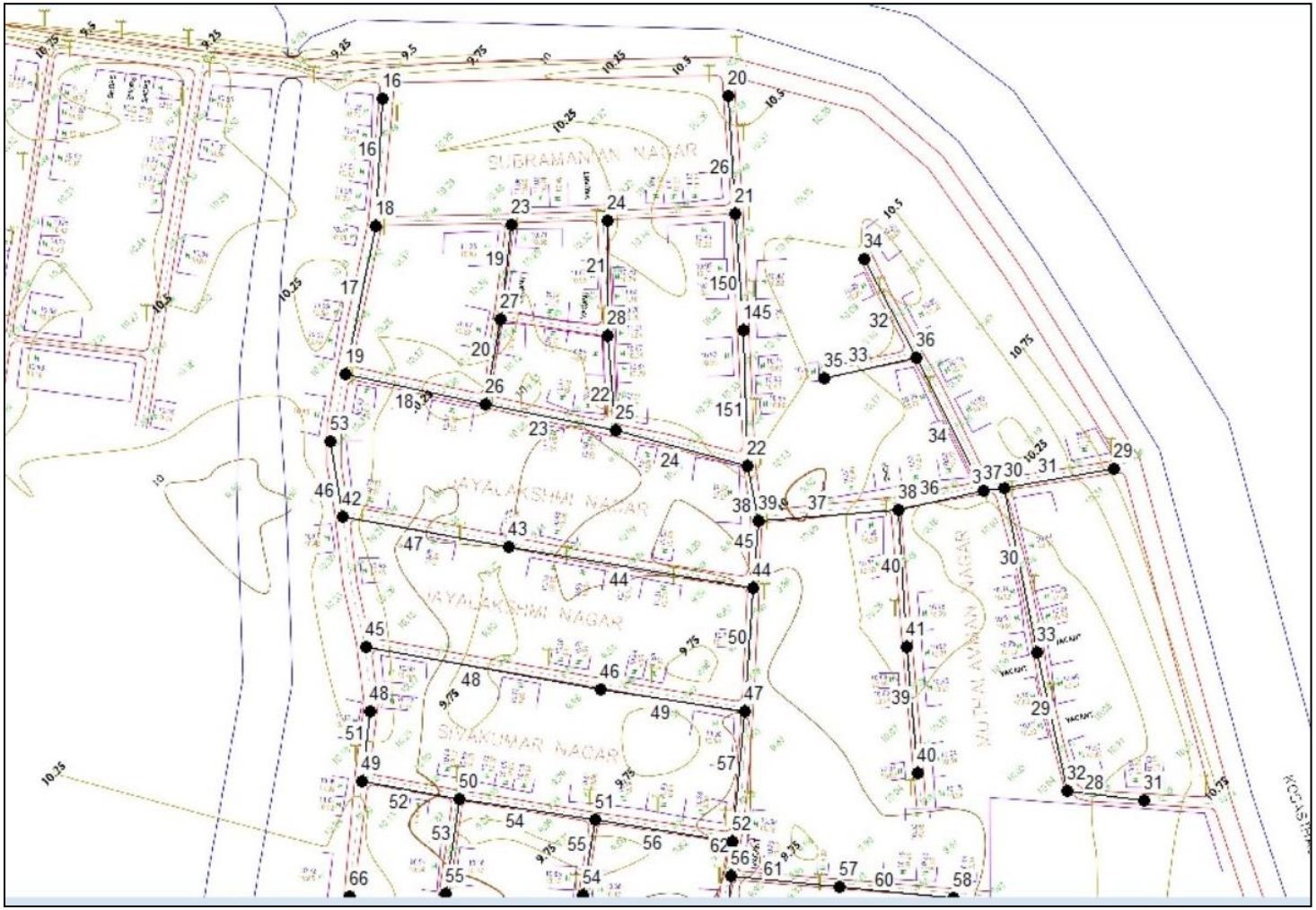
Underground Sewer Line Construction for Vichoor Village





Sample underground sewer layout with node and conduit ids for Vichoor village.

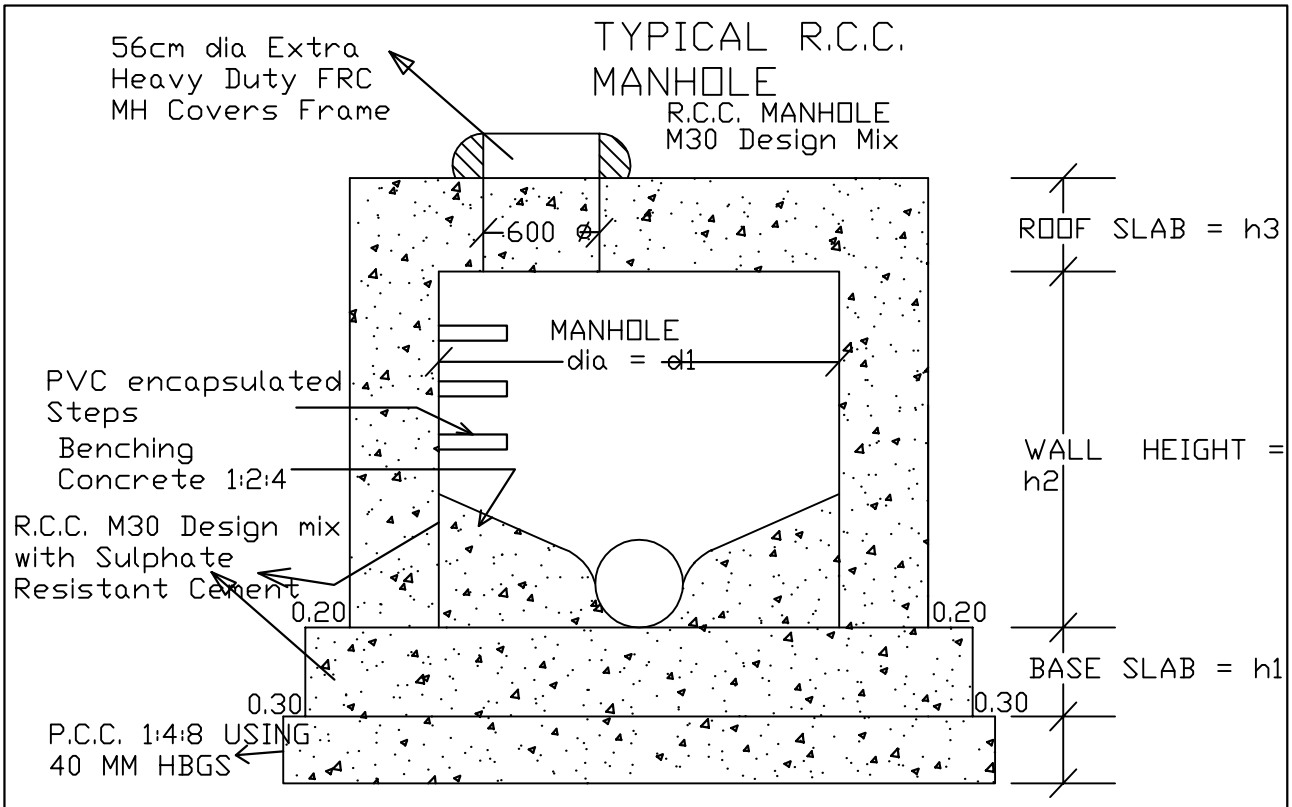
Underground sewer line construction design for Vichoor village

Conduit id	Length (m)	Diameter (mm)	From Node	Invert level (m)	To Node	Invert level (m)	Avg excavation Depth (m)
16	40.67	63	16	10.15	18	10.05	1
17	48.22	63	18	10.05	19	9.95	1
18	45.51	63	19	9.95	26	9.85	1
19	30.33	63	23	10.05	27	9.95	1
20	27.58	63	27	9.95	26	9.85	1
21	36.91	63	24	9.95	28	9.85	1
22	29.98	63	28	9.85	25	9.75	1
23	42.58	63	26	9.85	25	9.75	1
24	43.06	63	25	9.75	22	9.65	1
26	37.62	63	20	10.2	21	10	1
28	24.37	63	31	10.05	32	10	1
29	44.77	63	32	10	33	9.9	1
30	53.65	63	33	9.9	30	9.8	1
31	35.3	63	29	10	30	9.8	1
32	35.44	63	34	9.9	36	9.85	1
33	29.76	63	35	9.95	36	9.85	1
34	47.34	63	36	9.85	37	9.75	1
35	6.56	63	30	9.8	37	9.75	1
36	28.11	63	37	9.75	38	9.7	1
37	44.63	63	38	9.7	39	9.6	1
38	17.72	63	22	9.65	39	9.6	1
39	40.3	63	40	9.9	41	9.8	1
40	43.8	63	41	9.8	38	9.7	1
44	78.61	63	43	9.7	44	9.5	1
45	21.72	90	39	9.6	44	9.5	1
46	24.5	63	53	9.95	42	9.85	1
47	53.55	63	42	9.85	43	9.7	1
48	76.08	63	45	9.65	46	9.5	1
49	46.18	63	46	9.5	47	9.4	1
50	39.5	90	44	9.5	47	9.4	1
51	22.42	63	48	9.9	49	9.7	1
52	31.46	63	49	9.7	50	9.5	1
53	30.44	63	55	9.6	50	9.5	1
54	43.68	63	50	9.5	51	9.4	1
55	24.18	63	54	9.5	51	9.4	1
56	44.22	63	51	9.4	52	9.3	1
57	41.43	90	47	9.4	52	9.3	1
60	36.63	63	58	9.4	57	9.3	1
61	34.44	63	57	9.3	56	9.25	1

62	10.82	90	52	9.3	56	9.25	1
63	35.54	63	60	9.7	61	9.5	1
64	8.82	63	61	9.5	62	9.4	1
65	37.1	63	62	9.4	59	9.15	1
66	40.67	90	56	9.25	59	9.15	1
67	42.13	63	66	9.9	63	9.7	1
68	45.38	63	63	9.7	64	9.5	1
69	36.63	63	64	9.5	65	9.4	1
70	35.56	63	65	9.4	59	9.15	1
71	21.84	63	67	9.8	63	9.7	1
72	44.26	63	71	9.7	70	9.4	1
73	43.52	63	70	9.4	69	9.3	1
74	31.94	63	69	9.3	68	9.05	1
75	23.26	110	59	9.15	72	9.1	1
76	25.85	110	72	9.1	68	9.05	1
77	33.3	63	73	10	74	9.8	1
78	40.63	63	77	10.1	76	10	1
79	25.74	63	76	10	75	9.9	1
80	28.15	63	75	9.9	74	9.8	1
81	42.22	63	74	9.8	81	9.6	1
82	30.19	63	78	9.9	79	9.8	1
83	28.85	63	79	9.8	80	9.7	1
84	27.39	63	80	9.7	81	9.6	1
85	26.53	63	81	9.6	82	9.4	1
86	30.81	63	82	9.4	83	9.2	1
87	36.5	63	83	9.2	84	8.95	1
88	77.33	63	91	9.4	92	8.9	1
89	25.84	63	85	9.7	86	9.6	1
90	26.94	63	86	9.6	87	9.4	1
91	29.75	63	87	9.4	88	9.25	1
92	35.83	63	88	9.25	89	9.1	1
93	56.19	63	89	9.1	90	8.85	1
94	33.36	110	68	9.05	84	8.95	1
95	23	110	84	8.95	92	8.9	1
96	14.42	110	92	8.9	90	8.85	1
97	32.01	63	94	9.7	95	9.6	1
98	46.31	63	95	9.6	96	9.3	1
99	50.86	63	96	9.3	97	9.1	1
100	41.92	63	97	9.1	93	8.8	1
101	51.26	63	115	9.3	116	9.1	1
102	37.42	63	116	9.1	98	8.75	1
103	22.64	63	112	9.3	113	9.1	1
104	34.93	63	113	9.1	114	8.9	1
105	38.12	63	114	8.9	99	8.65	1
106	29.05	63	101	9.3	102	9.1	1
107	41.97	63	102	9.1	103	8.9	1

108	52.05	63	103	8.9	104	8.8	1
109	46.57	63	104	8.8	100	8.6	1
110	23.79	110	90	8.85	93	8.8	1
111	11.06	110	93	8.8	98	8.75	1
112	24.29	110	98	8.75	99	8.65	1
113	8.34	110	99	8.65	100	8.6	1
114	24.91	63	111	9	117	8.8	1
115	48.22	63	117	8.8	118	8.65	1
116	29.48	63	118	8.65	105	8.5	1
117	60.2	63	107	9.2	122	8.9	1
118	62.16	63	122	8.9	121	8.7	1
119	37.57	63	121	8.7	105	8.5	1
120	39.65	110	100	8.6	105	8.5	1
121	35.83	63	124	9.5	125	9.45	1
122	49.12	63	125	9.45	126	9.4	1
123	49.21	63	126	9.4	127	9.3	1
124	26.94	63	123	9.4	127	9.3	1
125	44.89	63	127	9.3	108	9.2	1
126	48.58	63	108	9.2	109	9	1
127	65.03	63	109	9	110	8.8	1
128	53.89	63	110	8.8	106	8.45	1
129	29.48	140	105	8.5	106	8.45	1
132	28.94	140	106	8.45	119	8.4	1
133	44.32	140	119	8.4	120	8.3	1
134	44.38	140	120	8.3	129	8.2	1
135	69.03	140	129	8.2	133	8.1	1
136	77.64	140	133	8.1	132	8	1
137	87.73	140	132	8	131	7.9	1
138	53.1	140	131	7.9	130	7.8	1
139	88.82	63	134	8.9	135	8.7	1
140	65.7	63	135	8.7	136	8.5	1
141	65.57	63	136	8.5	137	8.3	1
142	82.42	63	137	8.3	138	7.7	1
143	46.93	140	130	7.8	138	7.7	1
144	13.29	140	138	7.7	139	7.65	1
145	55.97	140	139	7.65	140	7.55	1
146	44.52	140	140	7.55	141	7.45	1
147	98.84	140	141	7.45	146	7.35	1
148	45.46	140	142	7.2	143	7.1	1
149	28.63	140	143	7.1	144	7	1
150	37.25	63	21	10	145	9.8	1
151	43.18	63	145	9.8	22	9.65	1
152	97.31	140	146	7.35	142	7.2	1

TYPICAL R.C.C. MANHOLE



Sl.No	MH Range	Ave. MH Height	Wall height h2	Base slab Thickness h1	Wall Thickness	RoofSlab Thicknessh3	Manhole dia d1
1	0.05-1.00	0.75	0.55	0.20	0.175	0.20	0.90
2	1.00-1.50	1.25	1.05	0.20	0.175	0.20	0.90
3	1.50-2.00	1.75	1.53	0.20	0.175	0.22	1.20
4	2.00-2.50	2.25	2.03	0.20	0.175	0.22	1.20
5	2.50-3.00	2.75	2.53	0.20	0.175	0.22	1.50
6	3.00-3.50	3.25	3.03	0.20	0.175	0.22	1.50
7	3.50-4.00	3.75	3.53	0.20	0.175	0.22	1.50
8	4.00-4.50	4.25	4.03	0.20	0.175	0.22	1.50
9	4.50-5.00	4.75	4.53	0.20	0.175	0.22	1.50
10	5.00-5.50	5.25	5.03	0.20	0.175	0.22	1.50
11	5.50-6.00	5.75	5.53	0.20	0.175	0.22	1.50
12	6.00-6.50	6.25	6.03	0.20	0.180	0.22	1.50
13	6.50-7.00	6.75	6.53	0.20	0.210	0.22	1.50
14	7.00-7.50	7.25	7.03	0.20	0.230	0.22	1.50

TAMILNADU WATER SUPPLY AND DRAINAGE BOARD

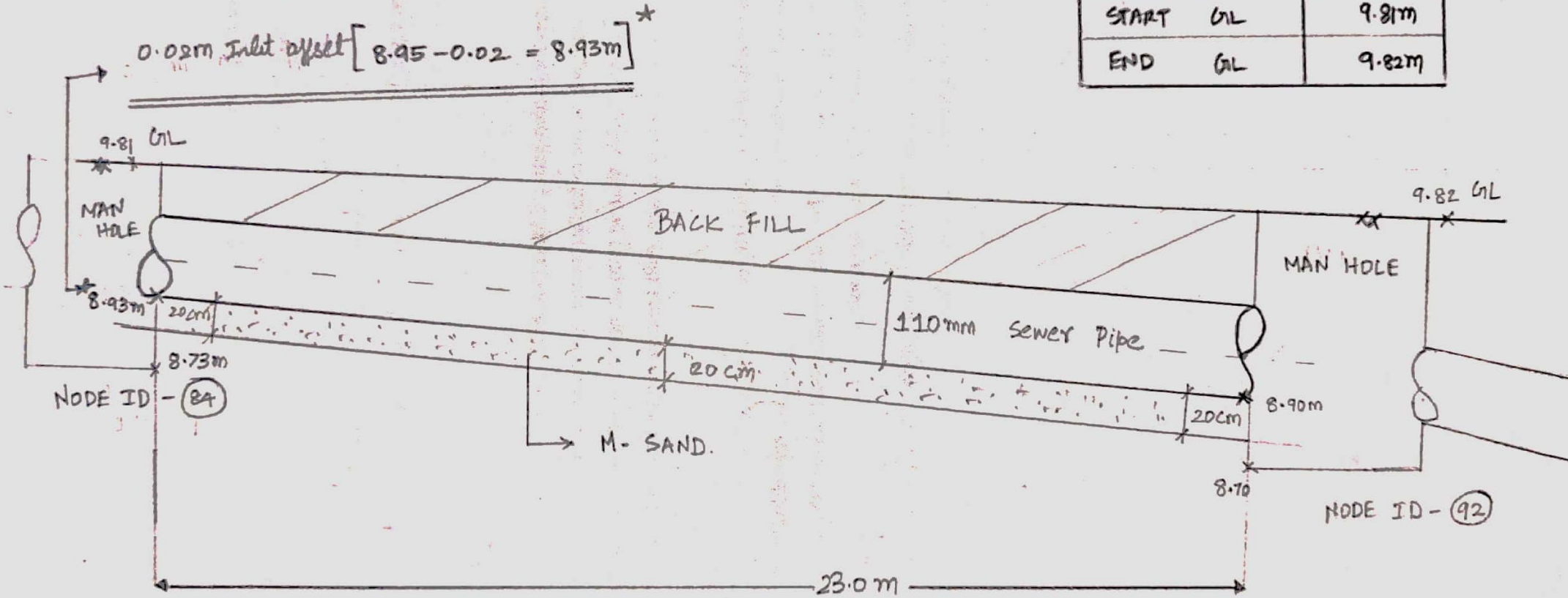
UGSS TO RAMESWARAMR MUNICIPALITY IN RAMANATHAPURAM DISTRICT

TYPICAL DRAWINGS FOR RCC MANHOLES

ASST. ENGINEER PROJECT SEC MANDAPAM	ASST. EXE.ENGINEER PROJECT SUB DN II MANDAPAM	EXE. ENGINEER PROJECT DIVISION RAMANATHAPURAM

LONGITUDINAL PIPE CROSS SECTION FOR PIPE ID – 95

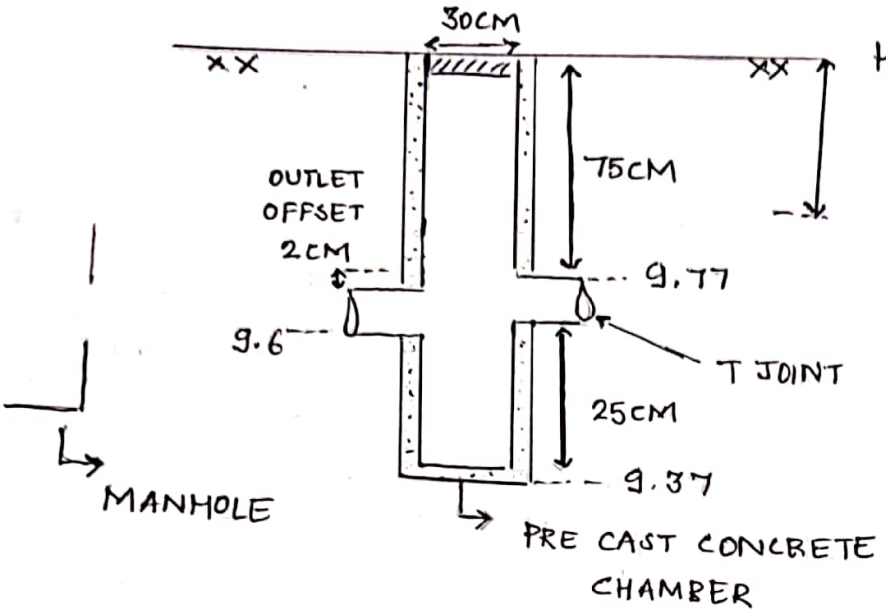
PIPE ID	95
START NODE ID	84
END NODE ID	92
LENGTH (PIPE)	23m
START INVERT	8.95m
END INVERT	8.90m
START GL	9.81m
END GL	9.82m



NOTE: AVERAGE DEPTH OF EXCAVATION CAN BE TAKEN AS 1.0m

PRECAST CONCRETE CHAMBER FOR NODE 133

SCALE 1 cm = 25 cm



NODE ID	133
HOUSE LEVEL	10.52 M
KITCHEN LEVEL	10.01 M
MANHOLE INVERT LEVEL	8.1M

NOTE :

1. Inlet T Joint should be lower than Kitchen level
2. outlet T Joint connects to manhole
3. Manhole connection should be lower than outlet T Joint
4. No of such chambers in complete network is 225